

IN THE CLAIMS:

Please amend claim 5 and claim 8 as shown below.

(Claim 5, amended, marked up copy)

5. A scintillation detector, comprising:
- (a) [the crystal scintillator of claim 1, and] a crystal scintillator comprising a transparent single crystal of cerium-activated lutetium yttrium oxyorthosilicate having the general formula  $\text{Lu}_{(2-x-z)}\text{Y}_x\text{Ce}_z\text{SiO}_5$ , wherein  $0.05 \leq x \leq 1.95$  and  $0.001 \leq z \leq 0.02$ ; and
  - (b) a photodetector optically coupled to said crystal scintillator for detecting light from said crystal scintillator.

(Claim 5, amended, clean copy)

- A'
5. A scintillation detector, comprising:
- (a) a crystal scintillator comprising a transparent single crystal of cerium-activated lutetium yttrium oxyorthosilicate having the general formula  $\text{Lu}_{(2-x-z)}\text{Y}_x\text{Ce}_z\text{SiO}_5$ , wherein  $0.05 \leq x \leq 1.95$  and  $0.001 \leq z \leq 0.02$ ; and
  - (b) a photodetector optically coupled to said crystal scintillator for detecting light from said crystal scintillator.
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(Claim 8, amended, marked up copy)

8. A scintillation detector, comprising:
- (a) [the crystal scintillator of claim 2, and] a crystal scintillator comprising a transparent single crystal of cerium-activated lutetium yttrium oxyorthosilicate having the general formula  $\text{Lu}_{(2-x-z)}\text{Y}_x\text{Ce}_z\text{SiO}_5$ , wherein  $0.2 \leq x \leq 1.8$  and  $0.001 \leq z \leq 0.02$ ; and
  - (b) a photodetector optically coupled to said crystal scintillator for detecting light from said crystal scintillator.

(Claim 8, amended, clean copy)

- A2
8. A scintillation detector, comprising:
- (a) a crystal scintillator comprising a transparent single crystal of cerium-activated lutetium yttrium oxyorthosilicate having the general formula  $\text{Lu}_{(2-x-z)}\text{Y}_x\text{Ce}_z\text{SiO}_5$ , wherein  $0.2 \leq x \leq 1.8$  and  $0.001 \leq z \leq 0.02$ ; and
  - (b) a photodetector optically coupled to said crystal scintillator for detecting light from said crystal scintillator.